OPERATING INSTRUCTIONS
AND
MAINTENANCE MANUAL

S-SCORT®

MODEL 45000A

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CAUTION - NOTICE

FOR DC VOLTAGE ONLY.
DO NOT CONNECT DIRECTLY TO 115V AC.
EXCEPT THROUGH SSCOR AC TO DC BATTERY
CHARGER PART # 80525

A suction tip with a thumb control should be used routinely during the procedure.

Federal law restricts this device to sale, distribution, and use by or on the order of a physician, emergency medical technician, or other medical practitioner.

Operator should be thoroughly familiar with these operating instructions before using.

Do not use in the presence of flammable agents or anesthetics.

The suction pump must be reconnected to the battery charger after each use and remain connected until needed. Check the condition of the battery daily.

The S-SCORT Model 45000A is a vertical Model 40014B designed to accomodate a variety of Baxter CRD canisters or the Bemis canister as specified by the customer

Install a new canister before testing for negative pressure over 300mmHg to minimize possibility of implosion, which can occur in instances where a canister is aged or damaged.

SSCOR's battery charger charges batteries only. The battery charger will not run the pump.

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S-SCORT® Model 45000A

Battery Operated - Portable Suction Pump

U.S. Patent D270948

ETL Listed, conforms to UL STD 544

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GENERAL DESCRIPTION

S-SCORT® Model 45000A

S-SCORT is a portable, 12V DC battery operated suction pump for constant suctioning during resuscitation emergencies.

"It is powerful enough to provide an airflow of more than 30 liters/minute at the end of the delivery tube and a vacuum of more than 300mmHg when the tube is clamped."[1]

S-SCORT is powered by sealed lead acid batteries, capable of driving the unit at full power for 30 minutes and at gradually reduced power for an additional 15 minutes. The batteries are recharged by a 115V AC to 13.8V DC Dual Mode Automatic charger (included with the unit).

S-SCORT is designed to provide instant, effective suctioning, independent of external sources of power.

S-SCORT can be pre-set to be activated immediately upon reaching the distressed patient, with no set up time required during the first few critical minutes of the code.

Suction power is controllable for those instances when full power would be considered harmful to the patient.

All controls are clearly labeled and easily accessible.

S-SCORT is equipped to accomodate the Baxter CRD canisters or the Bemis Canisters. Baxter or Bemis canister procedures should be followed during installation and usage.

[1] JAMA, October 28, 1992. Vol. 268, No. 16. Page 2203
"Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiac Care"

IMPORTANT FEATURES

S-SCORT® Model 45000A

PUMP

High performance diaphragm vacuum pump with ball bearing construction. Requires no maintenance under normal conditions. Oil-less, requires no lubrication and produces oil free air.

REGULATOR

Provides a method for the user to adjust negative pressure. Vents to atmosphere to prevent accumulation of pressures in excess of a predetermined setting. Ranges from less than 50mmHg to 525mmHg (± 10%).

Note- Atmospheric pressure and altitude can affect negative pressure readings by 20% in extreme situations.

ELECTRICAL

Batteries are charged by direct connection to a dual mode automatic charger. UL 544 listed for hospital use. The first charging stage is a high rate designed to ensure recharging in 4 to 6 hours. The second stage is a "float" rate where the battery is maintained at full charge without overcharging. LEDS indicate when the power is on and when the battery is charging. (A separate LED on the front panel of the unit gives positive indication that the S-SCORT is receiving input from the charging source.)

The batteries are sealed lead acid. No acid, vapor or water loss. Can be charged or discharged in any position. Absolutely no "memory" effects as in Ni-Cad.

Fully charged batteries will operate the pump for 30-45 minutes.

CARRYING CASE

Lightweight, durable aluminum.

CANISTER COLLECTOR

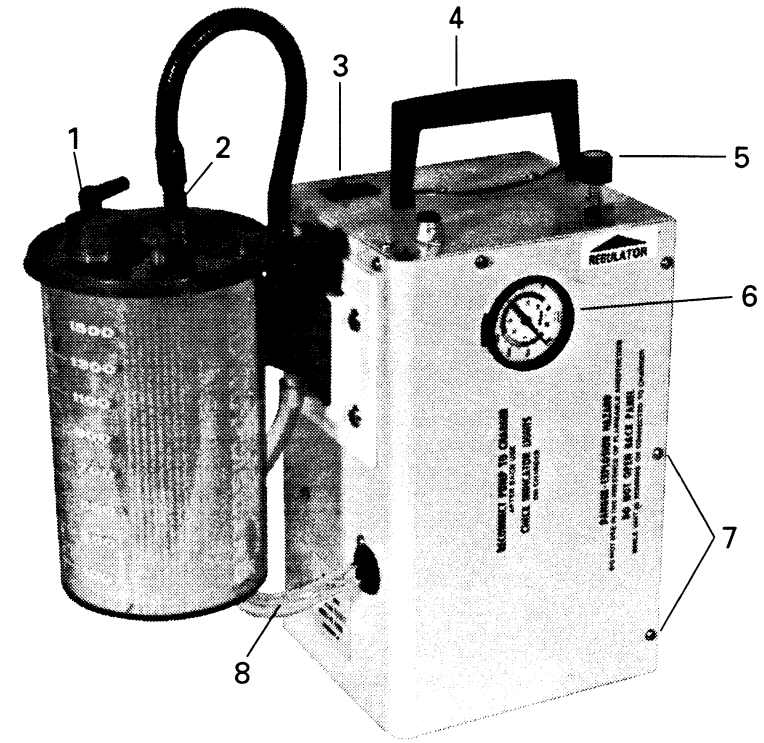
As specified by the customer.

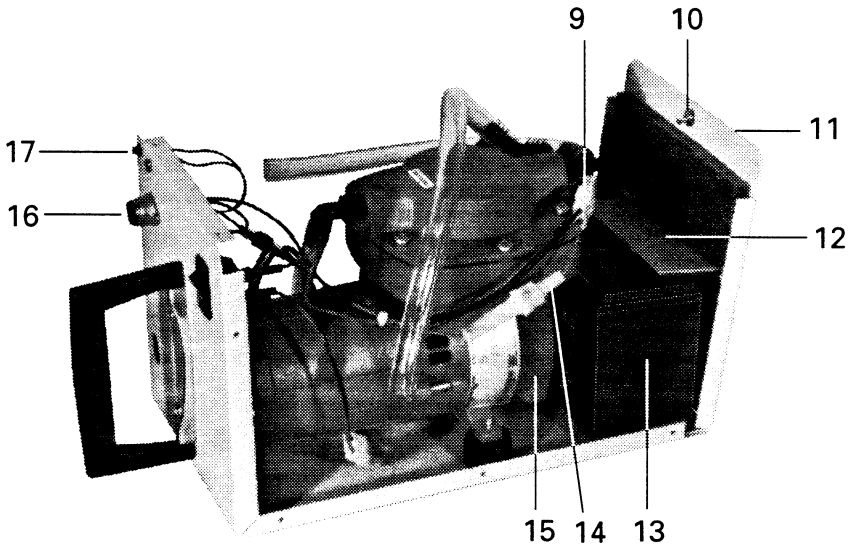
PERFORMANCE

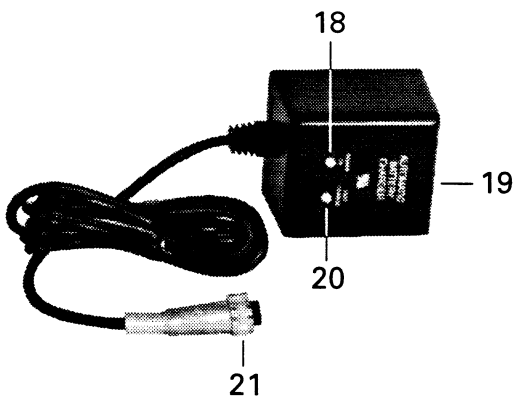
S-SCORT exceeds JAMA standards.

IMPORTANT FEATURES

S-SCORT® Model 45000A







IMPORTANT FEATURES

S-SCORT® Model 45000A

KEY NO.	COMPONENT	FUNCTION
1	Patient Port	Connects canister to patient tube
2	Vacuum Port	Connects canister to vacuum line
3	Off/Standby-On Switch	Turns unit On or Off
4	Carrying Handle	
5	Regulator Control	Adjusts negative pressure
6	Vacuum Gauge	Indicates vacuum level in mmHg
7	Service Screws	To remove top from base
8	Vacuum Line	Connects regulator to canister
9	Battery Connection	Quick disconnect
10	1/4 Turn Screw	Secures back panel and battery
11	Hinged Back Panel	Easy access to battery
12	Battery Holder	Secures battery pack
13	Battery	Supplies electrical power to pump
14	In-Line Fuse	Protects pump and wiring from electrical surge
15	Pump	Provides vacuum source
16	Charger Receptacle	To connect charger to battery
17	Charging Indicator Light	Signifies electrical connection from charger to the unit
18	"Power On" indicator	Shows connection to 115V AC input
19	Battery Charger	Charges battery after each use
20	Battery "Charging" Light	Shows battery is charging
21	12V DC Electrical Plug	To connect charger to battery

OPERATING INSTRUCTIONS

S-SCORT® Model 45000A

Daily Inspection: Establish a daily checklist to assure good performance of the equipment.

1. Confirm that the charger is charging the battery. Check charging light.
2. Run the unit .
3. Check for vacuum.
4. Check the regulator

NOTICE: The first seven steps of these instructions should be followed in the routine check list. Component Key Numbers are indicated within ( )s.

1. Connect battery charger (19) to 115V AC wall receptacle. Connect charger to pump by securely attaching charging plug (21) into battery receptacle (16). Check lights on charger: one light (18) indicates battery is receiving electrical power; the other light (20) indicates battery is charging. The charging light (high rate) will go out when the battery is 100% recharged to indicate the "float" stage in the charging circuit.

   The charging circuit is designed to keep the batteries properly charged as long as the charger and the pump are connected to the electrical power source. Always keep the charger connected to the electrical power source. Always keep the charger connected to the S-SCORT except for portable use.

   The charging indicator light (17) on the front panel indicates that S-SCORT is receiving electrical input from charger. It does not reflect the condition of the battery.

2. Attach patient connecting tube to patient port (1) on the canister lid.

3. Occlude patient connecting tube.

4. Turn Off/Standby-On switch (3) to On.

5. Observe negative pressure gauge (6).

6. Adjust negative pressure (while tubing is occluded) to desired level by turning regulator (5) clockwise to increase pressure, counter clockwise to decrease pressure. (Note: If negative pressure does not register, check to be sure the lid on the disposable canister is tight and vacuum connections are secure).

7. Proceed to suction.

8. Clear patient connecting tube with sterile water if necessary.

9. Reconnect battery (13) to charger (19), as soon as possible following the code, by securely attaching the charging plug (21) into the receptacle on the unit (16).

OPERATING INSTRUCTIONS contd.

S-SCORT® Model 45000A

10. Battery charger (19) must be connected to a 115V AC electrical wall receptacle.
    A. Observe indicator light showing "Power On" (18).
    B. Observe indicator light showing "Battery Charging" (20).

11. Pumps may be reused before the indicator light shows the battery to be fully charged; however, the time of effective usage will be indeterminable.

12. **CAUTION** - Always turn pump switch to "Off/Standby" as soon as possible after the procedure. Rechargeable batteries will short out if they continue to discharge after they have reached the point where they do not have sufficient power to drive the pump. Be sure the switch is in the "Off/Standby" position until needed.

WARNING

1. For use by Medical Personnel trained in the techniques and in the use of Medical Suction Equipment.

2. The S-SCORT produces a powerful vacuum. Be sure the regulator is in the low setting when suctioning children and intubated patients.

3. Use a suction catheter with a thumb control when suctioning children and intubated patients. Use a thumb control on all suction tips.

4. Explosion Hazard: Do not use in the presence of flammable anesthetics.

5. Electrical Shock Hazard: Refer all servicing of electrical systems to qualified service personnel.

NOTE: DO NOT ATTEMPT TO CHANGE THE ELECTRICAL SYSTEM. THIS UNIT OPERATES ON 12-14V DC ONLY.

6. Grounding reliability can only be achieved when connected to an equivalent receptacle marked "Hospital Only" or "Hospital Grade".

7. Be sure the lid on the canister is tightened securely to prevent a loss of vacuum at a critical time.

8. Keep S-SCORT connected to a 115V AC outlet at all times. It may, however, be disconnected for portable use.

SPECIAL CAUTION FOR BIOMEDICAL TESTING

9. Install a new canister before testing for negative pressure over 300mmHg to minimize possibility of an implosion which can occur in instances where a canister is aged or damaged.

MAINTENANCE

S-SCORT® Model 45000A

Maintenance is minimal, but the pump is designed to suction fluids which can easily contaminate the system if they are not removed immediately.

Immediately following the code procedure, remove the collection canister, dispose of the canister according to established procedure and replace with a new one.

If the code procedure produced an excessive quantity of fluids, check the vacuum line for evidence of moisture. Replace vacuum line if moisture is evident (Use 5/16" I.D. tubing).

If the vacuum line has filled completely, it is possible that fluids have reached the pump. Your engineering department can remove the head of the motor to check for moisture. If it is excessive, the pump should be decontaminated and returned to the factory for overhaul (see page 16 for pump diagram).

The charger can reflect the battery condition in one of two ways:

A. The charging light will stay on longer than the time it normally takes to recharge the battery. Replace the battery.
B. The charging light will go out immediately upon connection even though the battery has been completely discharged during operation. Replace the battery.

(The charging indicator light of the unit merely indicates you have a good connection from the charging source. It does not reflect the condition of the battery.)

When the battery can no longer hold a charge, order battery replacement. Please specify the model number of your pump when ordering a battery replacement.

If the charger appears defective, return it to the factory for repair. Do not attempt to repair charger.

Cleaning -- Use a mild detergent type cleaner. Do not use alcohol, solvents, or cleaning solutions. For interior cleaning, use dry compressed air.

For technical assistance, call . . . . (800) 434-5211

TROUBLE SHOOTING

S-SCORT® Model 45000A

MALFUNCTION	POSSIBLE CAUSE	CORRECTIVE ACTION
Unit does not function when switch is in the "ON" position	Loose Connections	Tighten Connections
	Battery discharged	Recharge Battery
	Battery defective	Replace Battery
	Charger defective	Check output of Charger
	Fuse has failed	Replace fuse (see page 14)
Unit does not suction when pump is running	Vacuum line loose	Check connections
	Canister defective	Replace Canister
	Canister lid is not tight	Resecure Canister lid
	Thumb vent on suction tip is not occluded	Occlude with thumb
LEDS on charger do not function	Defective wall outlet	Check outlet
	Dead Battery	Replace Battery
	Loose connections	Check Connections
Pump is sluggish	Residual materials have collected in the pump head	Refer to qualified service personnel for cleaning
	Battery is unable to retain a charge	Replace battery
	Loose connections	Check connections
System shuts down while suctioning heavy particulate matter	Vacuum line clogged at canister lid	Remove connector or canister lid and loosen obstruction
	Float valve has closed	Loosen float valve, empty contents, or replace canister (see Page 15)

GENERAL SPECIFICATIONS

S-SCORT® Model 45000A

CHARACTERISTICS	SPECIFICATIONS
Size	6.5"L x 12.5"H x 9"W
Weight	15 pounds
Pump	12V DC oil-less diaphragm. 7.0 Amp. permanent magnet motor. Powers to 525mmHg (± 10%) and 30 LPM.
Regulator	Controls negative pressure
Gauge	Calibrated in mmHg. Excessive pressure shaded in red
Power Source	
Battery	Sealed lead acid rechargeable 10 hour rate 6.5 Ah, charging temperature range 0 degrees centigrade to 40 degrees centigrade.
Capacity	30 to 45 minutes running time
Charger	Dual Mode, Automatic UL 544 listed.
AC Input	115V AC, 60Hz, 0.18A
DC Output	13.8V DC at end of charge. 0.05A
Battery Charging Indicator (Fast Charge)	Illuminates when battery is charging.
"Power On Indicator"	Illuminates when charger is connected to power source
Switch	On/Off rocker

WARRANTY

S-SCORT® Model 45000A

SSCOR warrants that each new SSCOR product is free from defects in material and workmanship under normal use and service for a period of one year from date of purchase. If returned to SSCOR, the factory will arrange for repairs or replacement within the terms of the warranty. The defective instrument should be decontaminated and returned properly packaged, postage prepaid. Loss or damage in return shipment to the factory shall be the purchaser's risk.

The warranty shall not apply to any SSCOR product which has been repaired by anyone other than an authorized SSCOR representative, or altered in any way so as, in SSCOR's judgment, to affect its safety or efficacy, nor which has been subject to misuse, negligence, or accident, nor which has had the serial number altered, effaced or removed. Neither shall this warranty apply to any SSCOR product which has been connected otherwise than in accordance with the instructions furnished by SSCOR.

This warranty is in lieu of all other warranties expressed or implied and of all other obligations or liabilities on SSCOR's part, and SSCOR neither assumes, nor authorizes any representative or other persons to assume for it, any other liability in connection with the sale of SSCOR products.

Batteries and disposable collection canisters are excluded from this warranty.

REPLACING THE FUSE AND BATTERY PACK

S-SCORT® Model 45000A

Refer to Parts Diagram Page 6 and Electrical Diagram on this page.

Open back panel (11) by turning the 1/4 turn screw (10) to the left 1/4 turn.

Battery pack (13) is installed next to the back panel. Lift and pull battery toward you until terminal connections are accessible. The in-line fuse (14) is located at the Molex connection between the battery and pump.

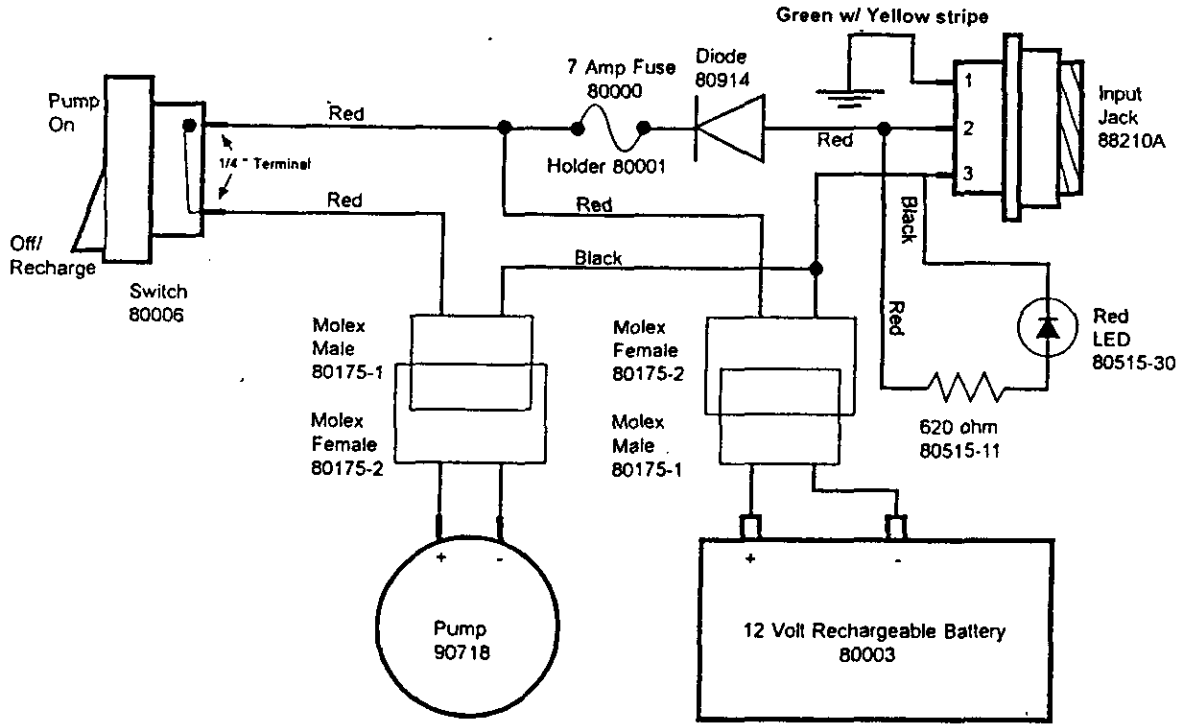
The battery pack is connected to the system with Molex connections.

Pull connections apart with a straight pull on the Molex terminal (not the wire). The replacement battery pack will fit this same connection.
Regarding the removed battery, please be sure of proper sealed-lead acid battery disposal.

Connect terminals to replacement - red wire to (+) positive pole, black wire to (-) negative pole. Replace battery in original position.

A bracket (12) on the back panel holds the battery in position. If back panel does not close easily, check position of battery to assure it rests on the floor of the chassis.

Place bracket under wiring while closing hinged back panel.



DRAWING AND PARTS LIST

S-SCORT® Model 45000A

Item No.	Part No.	Description	Qty.
1	602492-504	Motor Housing & Magnet Assy.	1
2	608092	Armature Fan & Bearing Assy.	1
3	614381-504	Motor End Cap Assembly	1
4	627093	Brush Holder & Lead Assembly	1
5	645576	Eccentric & Bearing Assembly	1
6	607153	Connecting Rod	1
7	608150	Diaphragm	1
8	614608	Front Cover	1
9	615403	Eccentric Spacer	1
10	617045	Valve Keeper Strip	1
11	621102	Intake & Exhaust Valve Flapper	2
12	625407	Brush Assembly Screw	2
13	625058	Motor Sleeve to Housing Screw	2
14	625444	Head & Adapter Screw	10
15	625114	Connecting Rod Cap Screw	1
16	625141	Intake Valve Plate Screw	4
17	625551	Valve Plate Screw	5
18	625244	Eccentric Set Screw	1
19	625260	Motor End Cap Screw	2
20	625266	Front Cover Screw	4
21	625160	Valve Flapper Screw	2
22	621502	Exhaust Valve Keeper Strip	1
23	626516	Lockwasher Intake Tooth	2
24	633560	Gasket - "O" Ring	1
25	654966	Diaphragm Hold Down Plate	1
26	654963	Valve Plate	1
27	633264	Pipe Plug (N.S.)	1
28	661661-504	Head	1
29	660526	Housing	1
30	X624454	Adapter	1
31	641034	Filter Foam (N.S.)	1
32	660710	Filter Body (N.S.)	1
33	660767	Filter Body Cap (N.S.)	1

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Item No.	Delete Part No.	Part Name	Add Part No.
5	645576	Eccentric & Bearing Assy.	645575
31	641034	Filter Foam	—
32	660710	Filter Body	—
33	660767	Filter Body Cap	—